

What is claimed is:

1. An image reading apparatus comprising:

an optoelectric converter device for converting an optical image into an electric signal at the timing of a control signal
5 and a pulse signal;

a pulse signal generator for generating the pulse signal from an input clock signal;

10 a clock signal multiplier for multiplying a clock signal, of which the period corresponds to a period of scanning one pixel on the optoelectric converter device, to generate a multiplied clock signal;

a load signal generator for generating a load signal from the multiplied clock signal;

15 a counter for releasing a count data determined by the multiplied clock signal and the load signal;

a comparison signal generator for comparing between a pulse width setting value of the control signal and the count data to generate a comparison signal; and

20 a control signal generator for generating the control signal from the comparison signal.

25 2. An image reading apparatus according to claim 1, further comprising a first pipeline delay controller for eliminating a difference between the pipeline delay developed in the generation of the control signal and the pipeline delay developed in the generation of the pulse signal.

3. An image reading apparatus according to claim 1, further comprising:

a stop signal generator for generating from the pulse signal

a stop signal for negating the output of the control signal;
a signal negator responsive to the stop signal for negating
the output of the control signal; and
5 a second pipeline delay controller for eliminating a difference
between the pipeline delay developed in the generation of the stop
signal and the pipeline delay developed in the generation of the
control signal.

4. An image reading apparatus comprising:

10 a pulse signal generator for generating a pulse signal from
an input clock signal;

an optoelectric converter device for converting reflected
light on an original into an electric signal and releasing it as
an analog image signal of pixels at intervals of a period determined
by the pulse signal;

15 a clock multiplier for multiplying a clock signal, of which
the period corresponds to a period of scanning one pixel on the
optoelectric converter device, to generate a multiplied clock
signal;

20 a control signal generating means for generating a control
signal from the multiplied clock signal; and

a signal processor responsive to the control signal for
processing the analog image signal released from the optoelectric
converter device.

25 5. An image reading apparatus according to claim 4, wherein
the signal processor includes sample-hold circuits for sampling
and holding the analog image signals.

6. An image reading apparatus according to claim 4, wherein
the signal processor includes amplifier circuits for amplifying

the analog image signals.

7. An image reading apparatus according to claim 4, wherein the control signal generating means includes:

5 a load signal generator for generating a load signal from the multiplied clock signal;

a counter for releasing a count data determined by the multiplied clock signal and the load signal;

10 a comparison signal generator for comparing between a pulse width setting value of the control signal and the count data to generate a comparison signal; and

a control signal generator for generating the control signal from the comparison signal.

8. An image reading apparatus comprising:

a CCD sensor;

15 means for generating from an input clock signal a shift pulse signal for the CCD sensor;

means for multiplying a clock signal, of which the period corresponds to a period of scanning one pixel on the CCD sensor, to generate a multiplied clock signal;

20 control signal generating means for generating a control signal from the multiplied clock signal; and

signal processing means responsive to the control signal for processing the analog image signal released from the CCD sensor.

9. An image reading apparatus according to claim 8, wherein 25 the signal processing means includes sample-hold means for sampling and holding the output signals of the CCD sensor.

10. An image reading apparatus according to claim 9, wherein the signal processing means includes amplifying means for

amplifying the output signals of the sample-hold means.

11. An image reading apparatus according to claim 8, wherein the control signal carries a transfer clock signal for the CCD sensor.

5 12. An image reading apparatus according to claim 8, wherein the control signal carries a reset pulse signal for the CCD sensor.

13. An image reading apparatus according to claim 8, wherein the control signal generating means includes:

means for generating a load signal from the multiplied clock

10 signal;

means for releasing a count data determined by the multiplied clock signal and the load signal;

means for comparing between a pulse width setting value of the control signal and the count data to generate a comparison signal; and

25 means for generating the control signal from the comparison signal.

2003/02/20 10:50:50